

REMARKS

Favorable consideration and allowance of this application are respectfully requested in view of the above amendment and the discussion below.

Applicants' invention was discussed in the previously filed response dated September 4, 2002 which is incorporated herein by reference. The following additional comments are made in light of the new rejection.

Claims 3-6 are now rejected under 35 U.S.C. § 102 as anticipated by Japanese Patent 06-253409. Applicants previous arguments are deemed to be moot in light of the new grounds of rejection.

The current statement of the rejection is contained at item 2 on page 2 of the Patent Office Action. The '409 reference has been cited for having a chargeable battery 51, a voltage transformer control device (15, 81, 53) and a capacitor for charging the battery wherein the maximum voltage of the capacitor has a value which is greater than the maximum voltage of the battery. Additionally the rejection states that the transformer discharges the battery until the voltage is substantially equal to the maximum voltage of the battery. Independent claim 5 is rejected for substantially the same reasons with an indication being given that the '409 reference discloses the method.

Applicants respectfully traverse this rejection on the grounds that independent claims 3 and 5 provide a structure and a method which is not shown, disclosed or made obvious by the reference.

The reference to Dogoshi, Japanese Patent 06-253409 is addressed to a motor vehicle of the hybrid type wherein damage to the rechargeable battery is caused by regeneration power from the generator operation of the motor. An

increase in temperature of the rechargeable battery and in the hydrogen within the battery caused a degradation of the rechargeable battery. The '409 reference addresses this problem by switching arrangements whereby the regeneration power, instead of being fed to the battery 51 is fed to the capacitor 57. When the voltage of the capacitor 57 exceeds the voltage of the battery 51, a switch 81 is closed and the power of the capacitor 57 functions to operate the electrolysis section by the change command signal S2. When the switch 81 is connected, a positive electrode 79 of the electrolysis section is connected to the capacitor 57 so that the water is electrolyzed and hydrogen gas is generated on the cathode side. This hydrogen gas is supplied to the cathode side of the fuel cell 53 and the battery 51 is charged through the diode 61 by the electrolysis of water. This occurs until the voltage of the capacitor 57 is equal to the voltage of the battery 51.

In contrast, Applicants invention involves a voltage transformer control device which only discharges the capacitor when it has reached its maximum voltage as shown in Figure 2. In order to more clearly recite this feature, Independent claims 3 and 5 now specify that the transformer control device 2 discharges the capacitor 1 from a time that a voltage of said capacitor reaches said maximum voltage of said capacitor until the voltage of said capacitor is substantially equal to said maximum voltage of said battery. Previously, in each of these claims the maximum voltage of the capacitor had been greater than the maximum voltage of the battery.

The '409 reference begins its discharge of capacitor 57 as soon as its value reaches a value greater than the voltage of the battery 51. There is no indication

that the voltage of capacitor 57 has reached its maximum value before discharging begins.

The structure of the '409 reference is distinct from the present invention because of the electrolysis in the fuel cell which serves to provide a regeneration which does not degrade the operation of the battery. On the other hand, the purpose of the present invention is to operate motor vehicles having a chargeable battery which has a higher than conventional nominal voltage in order to ensure that sufficient power is supplied to high-power consuming devices. With the presently claimed invention, excess energy, which is available for a short time, is effectively used. This, in turn, permits use of a variable multi-voltage electrical wiring.

Therefore, because of the differences in objectives between the present invention and the '409 reference, the features which define claims 3 and 5 over the '409 reference are not obvious variations to one skilled in the art looking at the '409 reference. This is true even if the combination of the items 15, 81 and 53 could serve as a "voltage transformer control device."


Therefore in view of the distinguishing features between the claimed invention and the references, as defined by amended claims 3 and 5, applicants respectfully request that this application containing claims 3-6 be allowed and be passed to issue.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #951/48911).

Respectfully submitted,

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MARKED UP VERSION TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 3 and 5 as follows:

3. (Twice Amended) A device for supplying electricity to a motor vehicle,

comprising:

a chargeable battery;

a voltage transformer control device having a first end connected to said chargeable battery;

a capacitor for charging said chargeable battery connected to a second end of said voltage transformer control device wherein the maximum voltage of said capacitor is greater than a maximum voltage of said battery and wherein said transformer control device discharges said capacitor from a time that a voltage of said capacitor reaches said maximum voltage of said capacitor until said voltage of said capacitor is substantially equal to said maximum voltage of said battery.

5. (Twice Amended) A method for supplying electricity to a motor vehicle, comprised the steps of:

providing a rechargeable battery having a nominal voltage;

providing an energy accumulator having a maximum voltage which is substantially greater than said nominal voltage;

discharging said energy accumulator from a time that a voltage on said accumulator reaches said maximum voltage of said accumulator until the voltage of said accumulator is substantially equal to said nominal voltage of said rechargeable battery.